

## The Bees of Southern California.—I.

BY T. D. A. COCKERELL.

The series of articles to appear under the above title will contain descriptions and records of Southern California bees, and it is hoped eventually to publish tables for the identification of all the species.

### *Stelis laticincta*, Cresson.

Wilson's Peak, one male, collected by Dr. Davidson.

Only the female has been described. The male is similar, but only 6 mm. long, with the clypeus, a small supraclypeal mark, and a line beneath anterior ocellus, all yellow, in addition to the markings present in the female. The yellow stripes behind the eyes are continuous right across the top of the head. The anterior and hind tibiae are yellow on the outer side.

While working up the present insect I have become satisfied that the New Mexico insect which has passed for years as *S. costalis*, is quite distinct. It is to be said that Mr. Fox long ago compared it with Cresson's types, and did not think it was *costalis*. It may be known as *S. rudbeckiarum*, n. sp., the type being my No. 1567, Santa Fe, July, at flowers of *Rudbeckia*. It is about 7 mm. long, varying to  $5\frac{1}{2}$ , and the male agrees with Cresson's description of female *costalis*, except in the following character: Tubercles and pleura wholly black tegulae ferruginous, with a yellowish spot anteriorly; legs black, the knees broadly and the tarsi red, the hind femora have a good deal of red, and the tibiae show a little reddish on the inner side; yellow band on third abdominal segment not indented. The clypeus is entirely black.

### *Dianthidium*.

Four species of this genus have been collected in Southern California. In the following table they are separated and compared with several species found elsewhere.

Scutellum all black in both sexes; size large (Europe) ..	
..... <i>septemdentatum</i> (Latr.)	
Scutellum with at least some yellow or whitish; size smaller	
.....	1
1. Small, compact species, with the hind edge of the scutellum produced and sharp-edged, the yellow marks on scutellum in a straight line or almost so; posterior coxae without spines. ( <i>Anthidiellum</i> , n. subg., type <i>strigatum</i> )	2

- Not so; scutellum less produced, the yellow marks or band on scutellum not in a straight line..... 5.
2. Band on second abdominal segment nearly as widely interrupted as that on first, i. e., reduced to lateral marks (Europe).....**strigatum** (Panzer).  
Band on first abdominal segment reduced to lateral marks, but that on second at most very narrowly interrupted..... 3.
3. Hind tibia without black (New Mexico)....**gilense** (Ckll.)  
Hind tibia with a good deal of black..... 4.
4. End of male abdomen with four little teeth; band on second abdominal segment very broadly interrupted (Mojave Desert .....**ehrhorni** (Ckll.)  
End of male abdomen without such teeth; band on second abdominal segment very narrowly interrupted (Southern California).....**robertsoni** (Ckll.)
5. Yellow band on first abdominal segment broadly interrupted in the middle (New Mexico)....**perpictum** (Ckll.)  
Band on first abdominal segment entire in the middle, interrupted, if at all, at the sides..... 6.
6. Base of abdomen with a good deal of red (Georgia, Texas, New Mexico, etc.....**curvatum** (Smith.)  
Base of abdomen without red..... 7.
7. End of male abdomen strongly trilobed; male with no supraclypeal mark; markings of abdomen chrome yellow in both sexes (So. California).....**consimile** (Ashm.)  
End of male abdomen truncate, faintly trilobed; male with a small supraclypeal mark..... 8.
8. Markings of abdomen pale yellow, bands more incised laterally (New Mexico, Colorado).....**parvum** (Cress.)  
Markings of abdomen bright yellow, bands less incised laterally (Southern California).....**davidsoni** (Ckll.)

***Dianthidium robertsoni*, n. sp.**

Four specimens collected by Dr. Davidson, three from Rock Creek, one from Los Angeles. Named after Mr. Charles Robertson, who first pointed out the presence of pulvilli in the genus. Small and compact,  $5\frac{1}{2}$  to 7 mm. long, the larger being females: black, with chrome yellow markings, strongly punctured; apex and apical half of costa of wings broadly fuliginous, the whole of the marginal and nearly all of the submarginal cells dark; the only yellow marks on head in the female are the large cuneiform lateral face-marks, and the entire occipital band, but in the male the clypeus and two triangles occupying the corners of the supraclypeal area and touching or almost touching medially are light yellow; markings of thorax and abdomen as in *D. gilense*, except that the anterolateral

stripes on margin of mesothorax are not bent posteriorly, the anterolateral spots on scutellum are wanting, the abdominal bands on the third and following segments are somewhat more widely interrupted, and are laterally very deeply incised or divided altogether, those on four and five always being divided; the sixth segment has much black, being in the female black with two yellow marks, and in the male usually yellow with a reversed black T; ventral scopa white; legs in female black, the apices of femora, tibiae and tarsi ferruginous; anterior tibiae with more than the basal half yellow outside, middle tibiae all yellow outside, hind tibiae with a yellow basal spot; in the male the anterior and middle legs are strongly bearded with long white hair, the anterior tibiae are yellow outwardly and pale reddish within, the middle tibiae are yellow with a very large black spot on the outer surface and a similar reddish one on the inner, and the hind tibiae are black with the ends broadly yellow, the tarsi have the basal joint yellow and the small joints ferruginous; the apex of the male abdomen is truncate with a faint trilobation.

***Dianthidium consimile* (Ashmead.)**

Dr. Davidson sends me three collected at Los Angeles; they bear dates June 13 and 15. I have identified the species from Ashmead's description, but I find that this, although stated to be that of a female, accords with the male of the insect before me. In the female the clypeus is black in the middle and yellow only at the sides. Except for this discrepancy the description applies excellently. The yellow tooth or spine on the hind coxae is very small in the female, somewhat larger in the male.

***Dianthidium davidsoni*, n. sp.**

Two males collected by Dr. Davidson at Bear Valley, California.

Length 8 to 9 mm.; black with bright chrome yellow markings. In structure and markings similar to ***D. parvum***, but larger, with the yellow much brighter, and the abdominal bands much less incised. The pubescence of the upper part of the head and thorax has a yellowish tint. Apical segment of abdomen yellow, truncate and faintly trilobed, only its extreme base, where it is overlapped by the penultimate segment, is black; penultimate segment yellow except the overlapped base, a median basal pointed process, and two transverse subapical marks (in ***parvum*** it is black with two light yellow crescents joining medially): first recurrent nervure about as far from base of second submarginal cell as the second is beyond its apex; yellow spines of hind coxae very large; pleura with or without a small yellow spot.

The following species, hitherto placed in ***Anthidium***, must be transferred to ***Dianthidium***, ***D. formosum*** (Cress.), ***D. gabbi***

(Cress.), **D. mexicanum** (Cress.), **D. apicale** (Cress.), **D. bivittatum** (Cress.), **D. toltecum** (Cress.), **D. agnatum** (Cress.), **D. texanum** (Cress.), **D. ulkei** (Cress.), **D. cressonii** (Dalla Terre), **D. lepidum** (Cress.), **D. simile**, (Cress.), **D. concinnum** (Cress.), **D. pudens** (Cress.). The easiest way to distinguish **Dianthidium** from **Anthidium** is to notice the little pulvillus or pad between the claws, this being absent in the latter genus. **Stelis** looks like **Dianthidium**, but it is a parasitic bee, and consequently the female has no scopa for holding pollen.

The species of **Dianthidium** are "resiniers," making " " " nests; **Anthidium** lines its nest with cottony fibers.

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## Prehistoric California.

(Continued from December BULLETIN.)

BY DR. LORENZO GORDIN YATES.

### WHALE.

Fossil remains of whales have been found at many localities, mostly near the coast. One of these found in the Pliocene ? near Santa Barbara by Professor George Davidson was named by Professor Cope, who called it **Eschrichtius Davidsoni**. It was as large as the "California Gray Whale," but belonged to the "Finbacks."

### THE HOG.

**Elothierium imperator**, Leidy, from the Miocene at Douglas Flat, Calaveras county, under the lava, is described as allied to the hog.

### SLOTH.

Professor Cope named an animal found in Quaternary of the Klamath River, at Yreka, the **Moritherium giganteum**. It was an extinct Sloth, and is supposed to have made the tracks resembling gigantic footprints found in the Carson Quarry in Nevada.

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### TAPIR.

The South American Tapir is represented by fossils found in the Auriferous Gravel, above the lava, in Tuolumne county.

### BEAVER.

A fossil rodent, **Sigmogomphius Le Contei**, Merriam, named for the late Professor Joseph Le Conte, was found by Professor